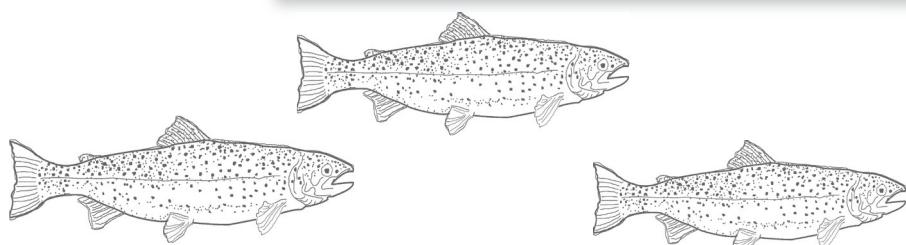
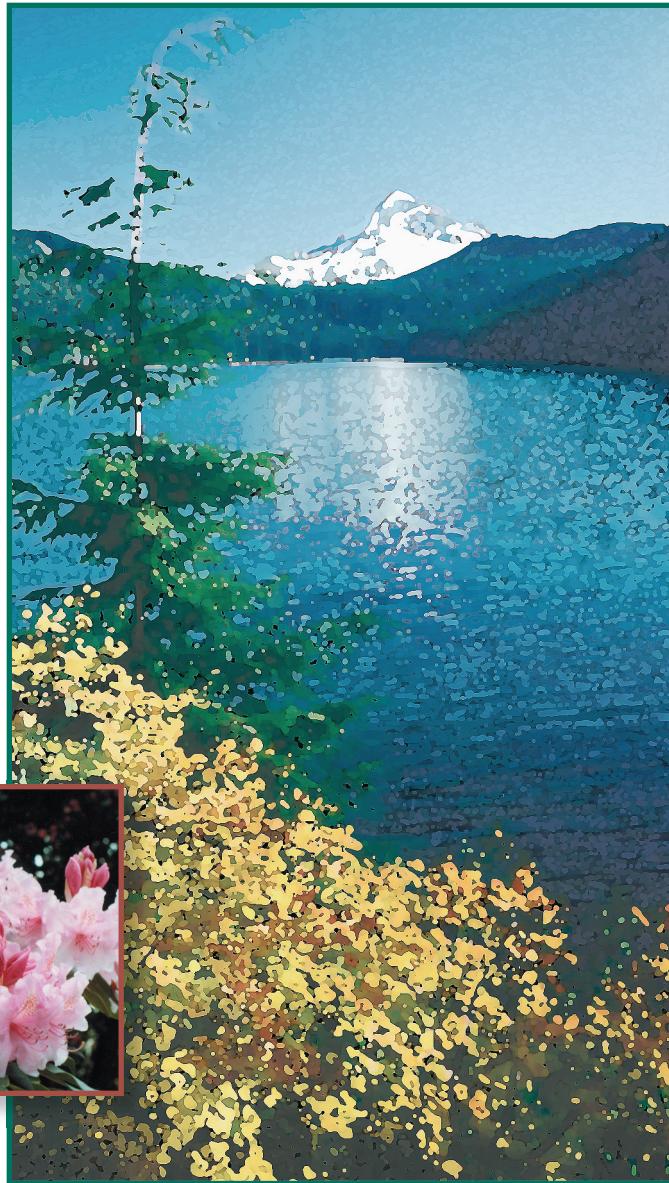


Draft Environmental Impact Statement

Bull Run Water Supply Habitat Conservation Plan



Prepared by: CH2M HILL, March 2008

Draft
Environmental Impact Statement

Bull Run Water Supply Habitat Conservation Plan

Prepared for
National Marine Fisheries Service (NMFS)

March 2008

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ACRONYMNS and ABBREVIATIONS

| | |
|-------|---|
| BP | Before Present |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| ccf | hundred cubic feet of water |
| cfs | cubic feet per second |
| CWA | Clean Water Act |
| DPS | distinct population segment |
| DSL | Department of State Lands |
| EDT | Ecosystem Diagnosis and Treatment |
| EIS | environmental impact statement |
| EPA | Environmental Protection Agency |
| ESA | Endangered Species Act |
| ESU | evolutionary significant unit |
| FERC | Federal Energy Regulatory Agency |
| FY | fiscal year |
| HCP | Habitat Conservation Plan |
| ITP | Incidental Take Permit |
| MBTA | Migratory Bird Treaty Act |
| mgd | million gallons per day |
| msl | mean sea level |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NOI | Notice of Intent |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historical Places |
| O&M | operation and maintenance |
| ODEQ | Oregon Department of Environmental Quality |
| ODF | Oregon Department of Forestry |

| | |
|-------|--|
| ODFW | Oregon Department of Fish and Wildlife |
| OEA | Office of Economic Analysis |
| ONHIC | Oregon Natural Heritage Information Center |
| ONHP | Oregon Natural Heritage Program |
| ORCA | Oregon Resource Conservation Act |
| ORV | outstanding remarkable value |
| PGE | Portland General Electric |
| ROD | Record of Decision |
| RM | river mile |
| RMA | Riparian Management Area |
| SDWA | Safe Drinking Water Act |
| SEC | Significant Environmental Concern |
| SHPO | State Historic Preservation Office |
| SIP | State Implementation Plan |
| SRBA | Sandy River Basin Agreement |
| TMDL | total maximum daily load |
| USFS | U.S. Forest Service |
| USFWS | U.S. Fish and Wildlife Service |
| WQMP | Water Quality Management Plan |

GLOSSARY

Adaptive management -- An approach that allows actions to be taken in the face of some uncertainty or lack of data, but provides for monitoring and the ability to change operations in response to new information to meet a particular objective.

Adfluvial -- A life history type in which fish live in lakes but migrate into streams to spawn.

Ammocoete -- A protracted larval stage of lamprey.

Anadromous -- A life history type in which fish mature in marine waters but migrate into fresh water to spawn.

Anchor habitat -- Distinct stream reaches that currently harbor specific life history stages of salmon and steelhead to a greater extent than the stream system at large.

Distinct Population Segment -- A subgroup of a vertebrate species that is treated as a species for purposes of listing under the Endangered Species Act. It is required that the subgroup be separable from the remainder of and significant to the species to which it belongs (61 Fed. Reg. 4722, Feb. 7, 1996).

Downramping -- Reductions in instream flows as a result of changes in water supply or hydroelectric facility operations—often expressed as a rate of drop of river water elevation in inches per hour

Easement -- A right-of-way giving specified individuals other than the owner permission to use a property for a specific purpose.

Environmental impact statement A report that documents the information required to evaluate the environmental impact of a project under the National Environmental Policy Act (NEPA)

Escapement -- The number of fish that avoid or escape all harvest and return to spawn at their home stream.

Fluvial -- A life history type in which fish mature in rivers but migrate into smaller tributaries to spawn.

Fry -- A free-swimming, juvenile salmonid that has recently emerged from the gravel and fully absorbed its yolk sac.

Habitat -- The environmental conditions of a specific place occupied by a plant or animal species, or a population of a species. An individual may require or use more than one type of habitat to complete its life cycle.

Incidental Take Permit -- A permit issued by the National Marine Fisheries Service or the U.S. Fish and Wildlife Service that allows take of a listed species incidental to otherwise lawful activities in accordance with an approved Habitat Conservation Plan.

Juveniles -- Salmonid life stage after emergence from gravel and prior to maturation or residence in marine waters; includes fry, parr, and smolts.

Large wood -- Large pieces of wood in, or partially in, stream channels, including logs, pieces of logs, and root wads. Large wood provides streambed and bank stability and habitat complexity.

Outmigration -- Process by which smolts leave freshwater habitat and enter salt-water habitat.

Rearing -- Life stage during which juvenile fish find shelter and food prior to outmigration.

Redd -- A salmonid fish nest, created by excavating a shallow pit in gravel where eggs are buried for incubation.

Riparian -- Relating to, living, or located on the bank of a natural watercourse, such as a river, a lake, or a tidewater.

Salmonids -- Fish species belonging to the family Salmonidae, which includes trout and salmon, among others.

Side channel -- A secondary channel containing a portion of the stream flow from the main channel and separated from the main channel at bankfull discharge.

Spawning -- The act of reproduction of fish, which includes egg laying and fertilization, and sometimes nest building (e.g., salmon).

Species -- A unit of the biological classification system below the level of genus; a group of individual plants or animals that have common attributes and are capable of interbreeding. The federal Endangered Species Act defines species to include subspecies and any Distinct Population Segment or Evolutionarily Significant Unit of any species.

Take -- To harass, harm, pursue, hunt, wound, kill, trap, capture, or collect a federally listed endangered species of fish or wildlife. Includes disturbance of species, nests, or habitat when disturbance is extensive enough to disrupt normal behavioral patterns and result in injury or death (Endangered Species Act of 1973, Section 3[10]).

Total Maximum Daily Load (TMDL) -- A written plan with an analysis that determines the total amount of a pollutant that can be present in a specific waterbody and still meet water quality standards according to Section 303(d) of the federal Clean Water Act.

Viable salmonid population (VSP) -- An independent population of any Pacific salmonid (genus *Oncorhynchus*) that has a negligible risk of extinction due to threats from demographic variation, local environmental variation, and genetic diversity changes over a 100-year time frame.

Water Quality Limited -- A receiving stream that does not meet narrative or numeric water quality criteria during the entire year or defined season even after the implementation of standard technology—for more information see Water Quality Standards: Beneficial Uses, Policies, and Criteria For Oregon Department Of Environmental Quality Water Pollution Division 41 340-041-0002, Definitions, Part 70 a-c.

Watershed -- The land area from which surface runoff drains into a stream, river, lake, reservoir, or other body of water